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ABSTRACT

The Wisconsin Design for Reading Skill Development (WDRS) is primarily an instructional management model in reading, which can be used in both English and bilingual classrooms. The Design, which presents an objective-based, skill-centered approach to reading instruction, conforms to the concept of individually guided education. It is organized in six broad skill areas: word attack, study skills, comprehension, self-directed reading, interpretive reading, and creative reading. For each skill area, the following are provided: instructional and behavioral objectives; assessment procedures; teacher materials and activities identified and organized by objectives; guidelines for implementation of the Design; and teacher planning guides. Pupil profile cards are also provided. Following the general description of the WDRS, this paper presents a more detailed description of the Design's reading comprehension component. This is followed by a discussion of new trends and theoretical bases concerning reading comprehension and transfer of Spanish-English reading skills, and their implications for bilingual education. Arguing that the research shows that reading comprehension skills will be developed and transferred in and between a first and second language if the bilingual reading curriculum is truly skill-based, the paper ends by proposing that the WDRS is a useful tool for this purpose. (CMG)

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THE WISCONSIN DESIGN FOR READING SKILL DEVELOPMENT AND TRANSFER OF COMPREHENSION READING SKILLS IN BILINGUAL EDUCATION

by.

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THE WISCONSIN DESIGN FOR READING SKILL DEVELOPMENT AND TRANSFER OF COMPREHENSION READING SKILLS IN BILINGUAL EDUCATION

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Individualized Instruction: An Overview

The contemporary movement towards individualized instruction has obtained the support of many educators and laymen. The development of individualized instruction began in the later decades of the nineteenth century as a reaction to the age-graded system. There are different interpretations of individualization inspired in different philosophies and theories. Consequently, the individualized programs are widely different in terms of the kind and degree of individualization involved in them. Great changes have been made in curriculum and instruction. Gibbons (1971) points out the necessity of a taxonomy for their classification. In a broad sense, individualized instruction can be defined as a liberal movement that concentrates on group practices, adaptations of subject matter to the individual, and finally, in the emancipation of the student from the constraints of the education planned by others (Gibbons 1971).

Arguments for breaking down uniformity of instruction in traditional or age-graded systems also gained support as measurements became more sophisticated. Programmed teaching by text and machine became popular in the early 1960's. Highly sophisticated programs are being developed for use with the computer. Great emphasis has been placed on cognitive development, and teaching has

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become more and more pupil centered. Diagnosis and student assessment have become imperative. Instructional management information systems emerged as a product of technological development. In the early twentieth century emphasis was placed on accountability and competency based performance measures. Nagel and Richman (1972) define Competency Based Instruction as a flexible, individualized program that frees students and teachers to work at their own rates without the fear of failure; it is a handy model for making use of instructional objectives to develop a program.

During the last years, a computer-assisted approach to accountability and performance instruction has been developed. It applies data processing to the tasks of specifying behavioral objectives, curriculum development, achievement monitoring and retrieval of instructional resources. These management systems are adopted by teachers to manage reading instruction. The Wisconsin Design for Reading Skill Development and Individually Guided Education are products of all these tendencies. The Wisconsin Design is primarily an instructional management model in reading.

The claim for equal educational opportunities for minorities and linguistically different children in the sixties found a fertile ground and appropriate atmosphere. It was a paradoxical claim that, while based on the idealism of human equality, required a different treatment. In a certain way, Bilingual Programs are a means of providing for individualized instruction of the linguistically different child. Bilinguism occupies a prominent place in contemporary educational issues. Psychologists, sociologists, linguists, and educators in general, are seriously concerned with its unresolved questions and dilemmas. The cognitive theory of learning focuses on language development, cultural background and the reading process. The transfer of reading comprehension skills in a bilingual setting requires a systematic program.

The Wisconsin Design (W.D.R.S.), a Management System to Individually Guided Education

The Individually Guided Education (I.G.E.) is a systematic conceptual scheme of elementary education. The system was started by personnel of the Wisconsin Research and Development Center for Cognitive Learning and Cooperating School Systems. It has been proposed as a contemporary and innovative alternative to age-graded, self-

contained schooling at elementary and middle school levels (Scorenson, Poole, Joyal, 1976). It started when a project named Maximizing Opportunities for Development and Experimentation in Learning in the schools was begun at the Wisconsin Research and Development Center, under the direction of Herbert J. Klausmeir as principal investigator (Klausmeir, Goodwin, Prash and Goodson 1966). In 1971, the Multiunit Elementary School Education MUS-E was selected by the United States Office of Education for nationwide implementation. The system of I.G.E. includes the following basic components: the multiunit school organization, instructional programming for the individual student, evaluation for educational decision making, a program of home-school community relations, a system of facilitative environments for I.G.E., and a program of continuing research and development to improve I.G.E. [a complete description of these components can be found elsewhere (Scorenson, Poole, Joyal, 1976)].

The W.D.R.S.: Organization, Sequence and Scope

The Wisconsin Design for Reading Skill Development is an objective-based, skill-centered approach to reading instruction. It conforms to the concept of individually guided education and provides for its efficient accomplishment. The Design comprises the essential components for the implementation of a skill centered approach to reading instruction (Otto, Askov 1971). Otto and Wayne (1972) state that the Design represents a systematic attempt to:

1. state explicitly an array of reading skills that, by long standing consensus, are essential for competence in reading.
2. assess, by means of criterion-referenced tests, individual pupils' skill development status with respect to explicitly stated behaviors related to each skill.
3. provide a comprehensive management system to guide grouping for and planning of skill development instruction.
4. monitor each pupil's progress in the development of specific skills.

The Design's comprehensive objective is, in sum, to provide school personnel with prototypes of the essential components of individually guided reading skill development programs for all the skills and objectives.

The program is organized in six broad areas: Word Attack, Study Skills, Comprehension, Self-Directed Reading, Interpretative Reading and Creative Reading. There is a terminal objective for each area that sets the expectation regarding the outcome once all the instructional objectives are covered. An instructional objective that defines the expected behavior has been included for each skill in each area. The first three areas included explicitly stated objectives and mastery learning. The last three areas incorporate expression objectives and participation in suggested activities in lieu of mastery of skills.

Each area or group of skills is subdivided into levels that correspond to grades K-6, running from A to G. The teacher's guideline provides outlines of reading skills that serve as a scope and sequence description of an elementary reading program.

Assessment

Criterion-referenced assessment is provided for all the behavioral objectives. That is, both formal and informal assessment procedures were worked out and made available using the behavioral objective as the description of the criterion or mastery performance of skills. The Wisconsin Tests of Reading Skill Development tested each objective in Word Attack, Study Skills and Comprehension. Systematic records of the Self-Directed Reading, Interpretative Reading, and Creative Reading Elements are kept by observing the student's performance in reading activities.

Instructional Resources and Management Material

There is a Teacher Resource File for each of the skill areas with behavioral objectives. Within each file, materials and activities are identified and organized by objectives. Different levels of difficulty are easily identified by establishing correlations among areas, terminal skills, subskills and activities. Creativity teachers can enrich these files by incorporating local resources while attending to particular needs. A single Teacher Resource File exists for the Self-Directed, Interpretative and Creative Reading Areas. The material related to each skill is organized so as to provide broad experiences rather than mastery of prescribed criterion behaviors.

Teachers are provided with other useful resources: The Rationale and Guidelines (Otto and Askov 1977) and the teacher's planning

guides. The first one covers the six areas of the Design and the guidelines for its implementation. The planning guides include information for an objective-based approach to each skill area. These materials provide the practical orientation in terms of planning, assessment, grouping, scheduling, and record keeping. The orientation is presented in a realistic way; real school situations are offered as examples for implementation of management procedures.

The Pupil's Profile Card is intended to provide information for the attainment of objectives. It is a record of the individual's skill development in each area.

Age Placement

Askov (1971) clarifies that the intent to cluster the skills in each area by levels should not be interpreted as an endorsement or perpetuation of an approach to skill development that is fixed to grade levels or children's chronological age. The grade designation is given only for transition purposes. It is recommended that grade designations be ignored as soon as a continuous progress approach to skill development becomes operational.

Klopp (1976) concluded that the Teacher's Resource File, Teacher's Planning Guide and Centered-Sponsored Inservice provided sufficient information for the field test faculties to implement the product according to the requisites for effective implementation. Whether or not the requisites are attained, is dependent upon the implementation pattern which school staff members elect to use, rather than upon the sufficiency of the product's component materials.

The Reading Comprehension Area: A Comprehensive Compilation of Literal Developmental Reading Skills

This area is the result of the effort to help teachers present not only a specific story but, instead, enable the student to better comprehend the totality of his reading. The key to this transferability is to teach skills, the tool for reading comprehension (Clifford, Pennock 1979). The focus in developmental comprehension is limited to skills which require convergent thinking. These are organized in four clusters, categorized in strands: Word Meaning, Sentence Meaning, Passage Meaning and Sequence. The area also incorporates the coherent development of skills within a strand. Grouping for development of

these comprehension skills can be done in any kind of organization. The Teaching Planning Guide for Comprehension (Otto/Kamm 1977) recommends the subdivision in three performance groups for any class of twenty to thirty-five students. Grouping should be based on the teacher's knowledge of the students' achievement, on standardized tests, basal tests or texts in which they are working.

The Teacher Resource File is a reference to commercial materials for teaching the comprehension skills. It offers a model for developmental instruction in each skill and a guide for the design of application activities. For each comprehension skill there is a separate folder. It is identified by level, skill, name, skill number and outline designation. The complexity of each skill increases at different levels as well as in its correspondent activity. The color coding corresponds to the different colors in the Wisconsin Test for Reading Skill Development. Its folder contains the model materials for developmental instruction and suggested application activities. Materials which must be adapted are marked with an asterisk. In addition to the basal texts, content related materials used for teaching specific subject matter are keyed for each skill. Most of the content needs to be adapted. The content entries are designated with a plus sign.

The Guide to Selecting Publishing Materials gives suggestions for keying resources for each of the forty Comprehension Skills. The standard format preserves consistency among the various entries and permits efficient use of the files.

The developmental instructional activities represent a small sampling of ideas and methods that should be utilized. Locally developed activities are required. The total number of activities for teaching a certain skill is dependent upon the needs of the students. It is assumed that the most effective approach for the teaching of reading is one which uses a number of different materials and methods. Selecting from different ideas and materials makes possible individualized teaching of different students.

The skill application activities give a student an opportunity to practice or apply the comprehension skills learned in a different situation. They are based on four teaching strategies: use of text contents, generation of student's own material, oral language and tutoring.

A criterion-referenced test is used to assess performance and to guide the instruction at different levels. This focus on individually guided reading comprehension skill development provides for correc-

tive, accelerated, adapted and remedial instruction. At the same time it makes necessary the teacher's analysis of some basic linguistic aspects: semantics, phonology, morphology and syntax. When teaching reading in two languages such as Spanish and English, this systematic approach will facilitate the identification of difficulties and critical areas arising from the specific nature of the language and the process of the transfer of learning.

New Trends and Theoretical Bases Concerning Reading Comprehension and Transfer of Spanish-English Reading Skills, and their Implications for Bilingual Education

The relationship between language and thought has come into sharp focus in the area of reading comprehension. Research has been emphasized in this area. For Piaget (1959), the actions upon the physical and social world are the foundations for concept development. Language is structured by cognitive development and it facilitates actual thought.

Comprehension is the process by which an individual generates meaning from linguistic input. The reader, being an active participant in this process, generates meaning from the printed text. He extracts semantic and syntactic cues, then interprets this information in the context of discourse. He constructs meaning by fusing his textual information and the information stored in his cognitive schemata.

The Psycholinguistic Model visualized reading as a process of predicting meaning based on the reader's knowledge of oral language, syntax, and semantic and phonological cues. The reader's language and concept development will affect reading comprehension. In order to apply word knowledge to reading, children must develop extensive mental lexicons that represent knowledge of concepts as well as skills and strategies. Ruddel (1978) quoted researchers that found that ineffective decoding prevents retrieval of single word meanings and interferes with the use of the semantic and syntactic information critical to textual comprehension.

Thorndike (1976) suggests that generation and integration allows reader interpretation. The recall or comprehension of text material seems to improve if the cognitive interaction extended by the reader is heightened [Schumacher, as quoted by Ruddel (1978)].

The Cognitive Clarity Theory of Reading states that the learning to read process consists of the rediscovery of the functions and the

coding rules of the written symbol. The Schema Theory (Anderson, 1971, quoted by Sheridan 1978) provides the concepts and the theory for explaining the interaction that takes place between the reader and the text in order to bring forth interpretation and comprehension. The reader's interpretation is influenced by his own schemata, which are an integral part of the interpretative framework a person needs to comprehend discourse.

Wagner (1978) traces briefly the psychologist's interest in bilinguism, from its origin in the early 1900's to the present. Many of the studies on bilingualism and cognitive development have sought to demonstrate that there are no cognitive deficits resulting from bilingualism. Wagner states that some researchers, such as Lambert (1977), tend to demonstrate that bilingual people show definite superiority in cognitive flexibility, creativity, and/or divergent thought.

Steffenson, Jogdeo and Anderson (1978) report research in which subjects from the United States and from India read letters describing a typical Indian and a typical American wedding and tried to recall them afterwards by means of interpretative tasks. Subjects recalled a larger amount of information from the native passage and produced more culturally appropriate interpretations of it, while the foreign passage produced more culturally based distortions. The results show the pervasive influence of schemata embodying knowledge of the context of the discourse on comprehension and memory. Martínez (1977) proved the assumption that folk literature presented orally in a linguistic form appropriate to children's ethnic background will elicit favorable attitudes. Those attitudes will facilitate comprehension.

One of the areas still not sufficiently studied is acquisition of reading skills in a first and a second language.

Any research into the process of second language reading must take into consideration the proactive and retroactive inhibition processes that occur when learning a second language. Knowledge of how native language reading occurs is not precise. The reading process in the native language is in itself extremely complex; therefore, it deserves continuous research. Bilingual reading teaching has assumed a challenging role in contemporary educational discussion.

Certain aspects of the reading process have suggested that second language reading skills are, in a certain way, determined by native language reading skills. Based on the possibility of ability transfer between languages, the assumption is made that a good reader in his native language would be a good reader in his second language.

Deemer (1978) reports the results of the experiments conducted by Al Rafai, Besmoki and Nations that support the hypothesis of a general reading skill which is transfered under proper conditions. Deemer compared the comprehensive reading skills in Spanish and English of three groups of Spanish speakers learning English. He concluded that reading for meaning is a non-language specific skill, which is transferred to a foreign language that is being learned. These results point to the necessity of a systematic assessment of the level of reading skills acquisition in both languages.

Ohnmacht and Fleming (1977) called attention to the fact that abilities which are transferable and produce effects at one stage of learning may differ from those that can be transfered at later stages of learning. Different skills serve to differentiate normal from poor readers at various reading levels. As Fleishman (1967) points out, the abilities relevant to skill acquisition emerging early in a learning process are not the same abilities which are transferable at terminal stages of learning.

The process of becoming a bilingual reader seems to be more complex, considering the fact that it requires more than the acquisition of new grapheme sound correspondences. The nature of the two languages involved in the transfer, as well as the specific characteristics of their writing systems, are important factors in the transfer of skills in learning. Natalicio (1971) emphasizes the fact that the Spanish writing system is very regular, with close correspondence between sounds and letters. On the contrary, the English writing system is not regular and children must learn that a single sound may be spelled in many different ways. Since transfer occurs almost automatically, it may be expected that reading instruction be made easier by learning in a language which is more regular. This expectation supports the Native Language Approach in reading. The transfer of reading skills from Spanish to English involves the readjustment of the sound-symbol correspondences characteristic of Spanish to those of English. In addition to acquiring a new phonological system in oral English with new vowels and consonant sounds in new positions and combinations, the native Spanish speaking child who learns to read initially in Spanish will also have to learn new sound symbol correspondences as he moves from reading in Spanish to literacy in English (Natalicio 1976). Besides, the transfer must necessarily involve higher levels of grammatical constraints in both languages. Our main concern with the transfer of skills in reading comprehension from the first language to

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the second language finds logical foundation in Gagne's theory. Gagne (1962) presents a model of learning and transfer based on a conception of hierarchical learning sets. Learning sets are capabilities subordinated to complex learning outcomes that have several learning sets in themselves. The subordinate learning sets serve as mediators for the positive transfer to the learning sets above them in the case of vertical transfer. Lateral transfer occurs when the application of a learning set is broadened to a variety of situations. This hierarchy requires sequence of instruction. When teaching reading in a bilingual school setting, the process is dual; subsequent and parallel learning sets in each language must be imparted so that the basic abilities mediate transfer in and between two different hierarchical sets. Before subordinate sets in both languages can be mastered, bisubordinate sets must be well learned. Each subordinate set must be grasped so well that, in conjunction with more basic abilities, it can become a skill capable of mediating transfer to higher levels. Vertical and lateral transfer may first occur when reading in the native language and, thereupon facilitate transfer to reading skills in the second language. These speculations pre-suppose profound individual differences among readers, and require sophisticated assessment and clear notions of hierarchical order of reading skills and subskills.

The Reading Comprehension Area and Spanish-English Skill Transfer in Bilingual Education

The Wisconsin Design is proposed as an alternative for teaching reading comprehension skills in a Spanish-English school setting. The Design is considered to meet the requirements for a structured organization in teaching reading skills. Research has demonstrated its positive effects in improving children's reading skills. Klopp (1977) describes the evaluation plan for the 1973-74 Small Scale Field Test of the Comprehension Element of the WDRSD. The school staff in general considered that the Design's Comprehension Component is a viable program that enabled them to teach comprehension skills. The overall retention rate for students' skills mastery at break-in and mastery after instruction runs from 85.3% to 77.2% among schools.

The reliability and validity of the skill related criterion-referenced tests have been examined. The Hoyt reliability coefficients for the tests, based on try-outs with one hundred children range around .70 or better. The feasibility of devising short, reliable skill assessment tests

has been demonstrated and the groundwork is laid for a skill-centered approach (Askov 1971). Different types of investigation of the validity of the Wisconsin Tests have been reported by Quilling (1970), Fischback (1971) and Blank (1970), as quoted by Askov (1971). Quilling (1971) provides data which demonstrates that the implementation of the Design has a favorable effect on reading achievement as measured by independent tests.

The assumption has been made in this paper that reading comprehension skills will be developed and transfered in and between a first and a second language if the bilingual reading curriculum is truly skill-based. Di Vesta (1974) suggests that there is a positive transfer between similar languages, but not between dissimilar languages. This tends to indicate that what is transfered are skills and processes rather than content. As Spanish and English are dissimilar languages, a more sophisticated skill-centered system is required in order to assure transfer. The Wisconsin Model for Reading Comprehension emphasizes, through planning and scheduling, the importance of hierarchical skill development and its application in a systematic way. It will give a basis for assessment of transfer of reading skills in each language's hierarchical skill organization and from the first language skills to second language ones. The transition from a first to a second language can be directed more efficiently. This approach will attempt to bridge the gap that exists between teaching and learning reading in Spanish and English.

The skills included were originally drawn from the carefully prepared curriculum guide of a public school system. This list has subsequently been refined in view of feedback from teachers and reading specialists who have worked with the list in the field, extensive reviews of the related literature and instructional materials, the opinions of authoritative reviewers, and experience in pilot situations (Askov 1971).

The "tightly organized structure" is apparent. Flexibility is provided for student grouping, selection and preparation of materials. In this sense, while appropriate translation into Spanish Teachers Resource File may be done, each bilingual faculty may prepare and select curriculum materials that correspond to the students' needs and cultural backgrounds. The activity samples exemplify not only content, but also procedures that the teacher can use to help the child learn reading strategies. The teacher can substitute those passages that do not correspond to the students' experiences. For example, Puerto

Rican children may ignore what a canoe trip is about. (Teacher's Resource File-Comprehension) This reading can be substituted by another related to other recreational activities, as going to the beach, to the river, and so forth.

Another positive aspect that favors the adoption of the model in a bilingual program is the fact that the procedures suggested are compatible with, but not tied to any particular set up, such as basal reader centered, classic individualized or language experience approach. A bilingual reading program for Puerto Rican Spanish speakers, for example, can be developed based on the basal reading series *Por el mundo del cuento y la aventura*, and the Miami Linguistic Reader Series by D.C. Heath and the Wisconsin Design. Teaching experiences must be broadened by stimulating recreational reading.

The management system structured in this way promises to provide the teacher with a better way of recording individual students' progress and transfer in both languages.

In conclusion, it is expected that the logic of pursuing a skill-oriented approach to reading in a first and a second language is very appealing. Perhaps it will shed some light on the subject of reading transfer while the school system demonstrates sensitivity to the students' native language and culture. The result of the application of this alternative ought to be functional reading in both languages, the ability to cope with the reading tasks encountered, and an attempt to systematize the observation and facilitation of transfer in transitional bilingual programs.

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